



OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/924,197

DATE: 02/07/2002
TIME: 13:53:54

Input Set : A:\Dna10810.app
Output Set: N:\CRF3\02072002\I924197.raw

ENTERED

```

3 <110> APPLICANT: Gutterson, Neal
4      Oeller, Paul
6 <120> TITLE OF INVENTION: Improved Methods of Gene Silencing Using Inverted
7      Repeat Sequences
9 <130> FILE REFERENCE: 012176-010810US
11 <140> CURRENT APPLICATION NUMBER: 09/924,197
12 <141> CURRENT FILING DATE: 2001-08-07
14 <150> PRIOR APPLICATION NUMBER: 60/225,508
15 <151> PRIOR FILING DATE: 2000-08-15
17 <160> NUMBER OF SEQ ID NOS: 3
19 <170> SOFTWARE: PatentIn Ver. 2.1
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 5822
23 <212> TYPE: DNA
24 <213> ORGANISM: Agrobacterium tumefaciens
26 <400> SEQUENCE: 1
27 ctggcaccgac aggtttcccg actggaaagc gggcagtgag cgcaacgcaa ttaatgtgag 60
28 ttagctcact cattagggcac cccaggcttt acactttatg cttccggctc gtatgttggtg 120
29 tggaattgtg agcggataac aatttcacac aggaaacagc tatgaccatg attacgcaa 180
30 gctattttag tgacactata gaatactcaa gctatgcatc caacgcgttg ggagctctcc 240
31 catatggtcg acctgcaggc ggccgcacta gtgatgctta gatctcgagt ggaagctaata 300
32 tctcagtgca aagcctcaac aaggtcaggg tacagagtct ccaaaccatt agccaaaagc 360
33 tacaggagat caatgaagaa tcttcaatca aagtaaaacta ctgttccagc acatgcatca 420
34 tggtcagtaa gtttcagaaa aagacatcca ccgaagactt aaagttagtg ggcatctttg 480
35 aaagtaatct tgtcaacatc gagcagctgg cttgtgggga ccagacaaa aaggaatggt 540
36 gcagaattgt taggcgcacc taccaaaagc atctttgcct ttattgcaa gataaagcag 600
37 attcctctag tacaagtggg gaacaaaata acgtggaaaa gagctgtcct gacagccac 660
38 tcaactaatgc gtatgacgaa cgcagtgacg accacaaaag aattagcttg agctcaggat 720
39 ttagcagcat tccagattgg gttcaatcaa caaggtagc gccatatcac ttatttcaaa 780
40 ttggtatcgc caaaaccaag aaggaactcc catcctcaaa ggtttgtaag gaagaattct 840
41 cagtocaaaag cctcaacaag gtcagggtac agagtctcca aaccattagc caaaagctac 900
42 aggagatcaa tgaagaatct tcaatcaaag taaactactg ttccagcaca tgcacatggt 960
43 tcagtaagtt tcagaaaaag acatccaccg aagacttaaa gttagtgggc atctttgaaa 1020
44 gtaattctgt caacatcgag cagctggctt gtggggacca gacaaaaaag gaatggtgca 1080
45 gaattgttag gcgcacctac caaaagcatc tttgccttta ttgcaaagat aaagcagatt 1140
46 cctctagtac aagtggggaa caaaataacg tggaaaagag ctgtcctgac agcccactca 1200
47 ctaatgcgta tgacgaacgc agtgacgacc acaaaagaat tccctctata taagaaggca 1260
48 ttcattccca tttgaaggac acagaaaaat ttgctacatt gtttcacaaa cttcaaatat 1320
49 tattcattta tttgtcagct ttcaaaactct ttgtttcttg tttgttgatt gagaatattt 1380
50 aaaaccatgg ttcttaaaaa caagaattat cttctcaagc aaatcacctt ttcaggtcca 1440
51 tgcagatctt ctatttcagt aaagattttt ggatccttag aagcatctag taaaatttca 1500
52 gactacaaag atagaaggct ttggattgct tttgatagtg ttcaaaattt agttgttgga 1560
53 ggaggaggaa ctatcaatgg caatggacaa gtatggtggc caagttcttg caaaataaat 1620

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/924,197

DATE: 02/07/2002

TIME: 13:53:54

Input Set : A:\Dna10810.app

Output Set: N:\CRF3\02072002\I924197.raw

```

54 aaatcaactgc catgcagga tgcaccaacg gccttaacct tctggaattg caaaaatttg 1680
55 aaagtgaata atctaaagag taaaaatgca caacaaattc atatcaaatt tgagtcagtc 1740
56 actaatgttg tagcttcaaa tttgatgac aatgcttcag caaagagccc aaatactgat 1800
57 ggagtcctatg tatcaaatac tcaatatatt caaatatctg atactattat tggaacaggt 1860
58 gatgattgta tttcaattgt tttcggatct caaaatgtgc aggccacaaa tattacttgt 1920
59 ggtccaggtc atggtataag tattggaagc ttaggatctg gaaattcaga agcttatgtg 1980
60 tctaattgta ctgtaaatga agccaaaatt atcggtgccg aaaatggagt taggatcaag 2040
61 acttggcagg gaggatctgg acaagctagc aacatcaaat ttctgaatgt ggaaatgcaa 2100
62 gacgttaagt atcccataat tatagaccaa aactattgtg atcgagttga accatgtata 2160
63 caacagtttt cagcagttca agtgaaaaat gtggtgtatg agaatatcaa gggcacaagt 2220
64 gcaacaaagg tggccataaa atttgattgc agcacaaact ttccatgtga aggaattata 2280
65 atggagaata taaatttagt aggggaaagt ggaaaacat cagaggctac gtgcaaaaat 2340
66 gtccatttta acaatgctga acatgttaca ccactgca ctactaga aatttcagag 2400
67 gatgaagctc tttgtataa ttattaatct gcaggctgat ctagtaacat agatgacacc 2460
68 ggcgcgcgata atttatccta gtttgcgcgc tatattttgt ttctatcgcg tattaatgt 2520
69 ataattgcgg gactctaate agaaaaaccc atctcataaa taacgtcatg cattacatgt 2580
70 taattattac atgcttaacg taattcaaca gaaattatat gataatcatc gcaagaccgg 2640
71 caacaggatt caatcttaag aaactttatt gccaaatgtt tgaacatctg cttgactcta 2700
72 gaggatcttc aattttttac tgtgaaacat tcttcgtgct aatttgttta tcacataaaa 2760
73 ttggttcggt aaattgtgaa ttaatttgcc ttctattttg accaatcaaa gcggctacgg 2820
74 atcttcctag agtcaagcag atcgttcaaa catttggcaa taaagtttct taagattgaa 2880
75 tcctgttgcc ggtcttgcga tgattatcat ataatttctg ttgaattacg ttaagcatgt 2940
76 aataattaac atgtaatgca tgacgttatt tatgagatgg gtttttatga ttagagtccc 3000
77 gcaattatac atttaatacg cgatagaaaa caaaatatag cgcgcaaact aggataaatt 3060
78 atcgcgcgcg gtgtcatcta tgttactaga tcgacctgca ggcattggat ccgcggcgcg 3120
79 atgcgacgct gggcccaatt cgccctatag tgagtcgtat tacaattcac tggcgcgtcg 3180
80 tttacaacgt cgtgactggg aaaaccctgg cgttacccaa cttaatcgcc ttgcagcaca 3240
81 tccccctttc gccagctggc gtaatagcga agaggccgcg accgatcgcc cttcccaaca 3300
82 gttgcgcgac ctgaatggcg aatggacgcg ccctgtagcg gcgcattaag cgcggcgggt 3360
83 gtggtggtta cgcgcagcgt gaccgctaca cttgccagcg ccctagcgcc cgctcctttc 3420
84 gctttcttcc ctctctttct cgccacgttc gccggctttc cccgtcaagc tctaaatcgg 3480
85 gggctccctt tagggttccg atttagagct ttacggcacc tcgaccgcaa aaaacttgat 3540
86 ttgggtgatg gttcacgtag tgggccatcg ccctgataga cggtttttcg ccctttgacg 3600
87 ttggagtcca cgttctttaa tagtggactc ttgttccaaa ctggaacaac actcaaccct 3660
88 atctcggctc attcttttga tttataaggg attttgccga tttcggccta ttggttaaaa 3720
89 aatgagctga tttacaaaat atttaacgcg aatttttaaa aaatattaac gtttacaatt 3780
90 tcgcctgatg cggtattttc tcttaacgca tctgtgcggg atttcacacc gcatacaggt 3840
91 ggcacttttc ggggaaatgt gcgcggaacc cctatttgtt tatttttcta aatacattca 3900
92 aatatgtatc cgctcatgag acaataaccc tgataaatgc ttcaataata ttgaaaaagg 3960
93 aagagtatga gtattcaaca tttcgtgtc gcccttattc ctttttttgc ggcattttgc 4020
94 ctctctgttt ttgctcacc agaaacgctg gtgaaagtaa aagatgctga agatcagttg 4080
95 ggtgcacgag tgggttacat cgaactggat ctcaacagcg gtaagatcct tgagagtttt 4140
96 cgccccgaag aacgttttcc aatgatgagc acttttaaa ttctgctatg tggcgcggta 4200
97 ttatcccgtg ttgacgcgg gcaagagcaa ctcggtcgcc gcatacacta ttctcagaat 4260
98 gacttggttg agtactcacc agtcacagaa aagcatctta cggatggcat gacagtaaga 4320
99 gaattatgca gtgctgccat aaccatgagt gataacactg cggccaactt acttctgaca 4380
100 acgatcgagg gaccgaagga gctaaccgct tttttgcaca acatggggga tcatgtaact 4440
101 cgcttgatc gttgggaacc ggagctgaat gaagccatac caaacgacga gcgtgacacc 4500
102 acgatgcctg tagcaatggc aacaacgttg cgcaaactat taactggcga actacttact 4560

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/924,197

DATE: 02/07/2002

TIME: 13:53:54

Input Set : A:\Dna10810.app

Output Set: N:\CRF3\02072002\I924197.raw

```

103 ctagcttccc ggcaacaatt aatagactgg atggaggcgg ataaagttgc aggaccactt 4620
104 ctgcgctcgg cccttcgcgg tggttggttt attgctgata aatctggagc cggtgagcgt 4680
105 gggctcgcg gtatcattgc agcactgggg ccagatggta agccctcccg tctcgtagtt 4740
106 atctacacga cggggagtcg ggcaactatg gatgaacgaa atagacagat cgctgagata 4800
107 ggtgcctcac tgattaagca ttggtaactg tcagaccaag tttactcata tatacttttag 4860
108 attgatttaa aacttcattt ttaatttaaa aggatctagg tgaagatcct ttttgataat 4920
109 ctcatgacca aaatccctta acgtgagttt tcgttccact gagcgtcaga ccccgtagaa 4980
110 aagatcaaag gatcttcttg agatcctttt tttctgcgog taatctgctg cttgcaaaca 5040
111 aaaaaaccac cgctaccagc ggtggtttgt ttgccggatc aagagctacc aactcttttt 5100
112 ccgaaggtaa ctggcttcag cagagcgagc ataccaaata ctgtccttct agtgtagccg 5160
113 tagttaggcc accacttcaa gaactctgta gcaccgccta catacctcgc tctgctaatac 5220
114 ctgttaccag tggctgctgc cagtggcgat aagtcgtgtc ttaccgggtt ggactcaaga 5280
115 cgatagttag cggataaggc gcagcggtcg ggctgaacgg ggggttcgtg cacacagccc 5340
116 agcttggagc gaacgacctc caccgaactg agatacctac agcgtgagct atgagaaaagc 5400
117 gccacgcttc ccgaaggagg aaaggcggac aggtatccgg taagcggcag ggtcggaaca 5460
118 ggagagcgca cgagggagct tccaggggga aacgcctggt atctttatag tcctgtcggg 5520
119 tttcgccacc tctgacttga gcgctgattt ttgtgatgct cgtcaggggg gcggagccta 5580
120 tggaaaaacg ccagcaacgc ggccttttta cggttccttg ccttttgctg gccttttgct 5640
121 cacatgttct ttctgcggtt atcccctgat tctgtggata accgtattac cgcctttgag 5700
122 tgagctgata ccgctcgcgg cagccgaacg accgagcgca gcgagtcagt gagcgaggaa 5760
123 gcggaagagc gcccaatacg caaacgcct ctcccgcgc gttggccgat tcattaatgc 5820
124 ag 5822
127 <210> SEQ ID NO: 2
128 <211> LENGTH: 19
129 <212> TYPE: DNA
130 <213> ORGANISM: Artificial Sequence
132 <220> FEATURE:
133 <223> OTHER INFORMATION: Description of Artificial Sequence: PG-5' (19-mer
134 sense primer)
136 <400> SEQUENCE: 2
137 ctgttcaatc catggttcc 19
140 <210> SEQ ID NO: 3
141 <211> LENGTH: 31
142 <212> TYPE: DNA
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: Description of Artificial Sequence: PG-3' (31-mer
147 antisense primer)
149 <400> SEQUENCE: 3
150 gaagatctat actgcagatt aataattata c 31

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/924,197

DATE: 02/07/2002

TIME: 13:53:55

Input Set : A:\Dna10810.app

Output Set: N:\CRF3\02072002\I924197.raw